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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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FARKAS & MANELLI PLLC
2000 M STREET NW
7TH FLOOR
WASHINGTON, DC 200363307

EXAMINER

SING, SIMON P

ART UNIT

PAPER NUMBER

2645

DATE MAILED: 09/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/394,096

Applicant(s)

DAVIS ET AL.

Examiner

Simon Sing

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because:
 - 1.1 The direction of amplifier 156 in figure 1 is reversed. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
 - 1.2 The outcomes (YES/NO) of decision block 206 in figure 3 are missing. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 2.1 Claim 7 recites the limitation "said switched loss echo suppression module" in line 3. There is insufficient antecedent basis for this limitation in the claim.

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2.2 Claim 8 recites the limitation "said transmit path" in line 3. There is insufficient antecedent basis for this limitation in the claim.

2.3 Claim 8 recites the limitation "said switched loss echo suppression module" in line 4. There is insufficient antecedent basis for this limitation in the claim.

2.4 Claims 18 and 21 recite the limitation "said electrical signal" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 7, 9-11, 16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Sacca US Patent No. 5,692,042.

4.1 Regarding claim 1, Sacca discloses a voice messaging system with speakerphone capability in figure 1. The receive path of Sacca's system comprising:

a receive signal from a telephone line (column 7, lines 36-41, 48-51);

a summer in said receive path (column 8, lines 2-4);

a gain module 106; and

a message playback signal relating to a pre-recorded voice message (column 8, lines 7-9);

wherein said message playback signal is combined with said receive signal by said summer, allowing simultaneously hearing by a local user of said speakerphone (column 8, lines 7-12).

4.2 Regarding claim 2, the receive path according to claim 1, further comprising a switch loss module 126.

4.3 Regarding claim 3, the receive path according to claim 1, further comprising:

a sidetone canceller [hybrid echo canceller] in line interface 104 to remove a transmit signal from said receive signal (column 1, lines 41-47; column 7, lines 42-45), said transmit signal including said message playback signal (column 8, lines 26-49);

wherein said message playback signal is combined in said receive path at a point after said sidetone canceller (figure 1).

4.4 Regarding claim 7, the receive path according to claim 2, wherein:

said switched loss module 126 is located in said receive path at a point after said gain module 106 (figure 1).

4.5 Regarding claim 9, the receive path according to claim 1, further comprising:

a receive voice activity detector 154 in communication with said receive path, said receive voice activity detector indicating a receive condition of said speakerphone (column 8, line 63 to column 9, line 6).

4.6 Regarding claim 10, the receive path according to claim 1, wherein:

said voice messaging system is a telephone answering device (column 8, lines 7-9; column 13, lines 42-47).

4.7 Regarding claim 11, the receive path according to claim 1, further comprising:

a conversational record signal (tape playback) formed from a gained representation of said receive signal (120A) summed (by summing amplifier 142) with a gained representation of a transmit signal (128A) to said telephone line.

4.8 Regarding claim 16, Sacca discloses a method of playing back a recorded voice message, comprising:

establishing a telephone call (column 7, lines 23-33);

initiating a speakerphone function of a near end voice messaging device in said telephone call (column 7, lines 23-30);

playing back a voice message recorded on said near end voice messaging system while said telephone call remains established (column 8, lines 7-12); and

injecting an electrical signal corresponding to said played back voice message (column 8, lines 7-12, 26-49) into said telephone call.

Sacca teaches that said playback voice message can be combined with a receive signal and with a transmit signal. Inherently, when the switches 118 and 134 are closed in a speakerphone call, individual users at either end can hear said played back voice message and concurrently converse with one another as desired.

4.9 Regarding claim 19, Sacca discloses a system of playing back a recorded voice message, comprising:

means for establishing a telephone call (column 7, lines 23-33);

means for initiating a speakerphone function of a near end voice messaging device in said telephone call (column 7, lines 23-30);

means for playing back a voice message recorded on said near end voice messaging system while said telephone call remains established (column 8, lines 7-12);
and

means for injecting an electrical signal corresponding to said played back voice message (column 8, lines 7-12, 26-49) into said telephone call.

Sacca teaches that said played back voice message can be combined with a receive signal and with a transmit signal. Inherently, when the switches 118 and 134 are closed in a speakerphone call, individual users at either end can hear said played back voice message and concurrently converse with one another as desired.

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5. Claim 22 is rejected under 35 U.S.C. 102(b) as being anticipated by D'Agosto, III et al. US Patent No. 5,692,042.

D'Agosto discloses a speakerphone with a record/playback module 50 in figure

3. D'Agosto's method of recording a conversation, comprising:

activating speakerphone operation of a near end telephone system 10 (column 15, lines 17-42);

while said speakerphone operation is activated, recording a conversation utilizing said speakerphone (column 11, lines 17-19; column 10, lines 55-60).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sacca US Patent N. 5,692,042 in view of Horan US Patent No. 6,347,136.

Sacca teaches that a message playback signal is combined into the receive path by a summer, but fails to teach that a message gain module between said message playback signal and said summer.

However, Horan discloses an answering machine (column 3, lines 51-55) with speakerphone (column 5, lines 18-21) function in figure 1. Horan also discloses an

amplifier 242 (figure 6) between a message playback signal 230 (figure 6) and a summer (figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sacca reference with the teaching of Horan so that an amplifier [gain module] would have been placed between the message playback signal and the summer, because such a modification would have enabled the system compensate any signal loss (attenuated) in the message playback signal path.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sacca US Patent N. 5,692,042 in view of Horan US Patent No. 6,347,136 and further in view of Li US Patent No. 5,612,996.

The Sacca reference, modified by Horan, discloses a message gain module 242 according to claim 4. Horan fails to teach that the gain module comprises an automatic gain control (AGC) portion and a fixed gain portion.

However, Li discloses a speakerphone with line echo canceller in figure 1. Li teaches that a gain module comprises an AGC portion 136 and a fixed gain portion 138 in a receive path.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the Sacca reference, which was modified by Horan, with the teaching of Li so that the gain module would have comprised an

AGC portion and a fixed gain portion, because such a modification would have provided a fixed level signal to the speakerphone.

9. Claims 6, 12-15, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sacca US Patent N. 5,692,042 in view of Li US Patent No. 5,612,996.

9.1 Regarding claim 6, Sacca discloses a gain module 106 in the receive path according to claim 1. Sacca fails to teach that the gain module comprises an automatic gain control (AGC) portion and a fixed gain portion.

However, Li discloses a speakerphone with line echo canceller in figure 1. Li teaches that a gain module comprises an AGC portion 136 and a fixed gain portion 138 in a receive path.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sacca reference with the teaching of Li so that the gain module would have comprised an AGC portion and a fixed gain portion, because such a modification would have prevented overloading the speaker.

9.2 Regarding claim 12, Sacca discloses a gain module 120 in the receive path according to claim 1. Sacca fails to teach that the gain module comprises an automatic gain control (AGC) portion and a fixed gain portion.

However, Li discloses a speakerphone with line echo canceller in figure 1. Li teaches that a gain module comprises an AGC portion 136 and a fixed gain portion 138 in a receive path.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sacca reference with the teaching of Li so that the gain module would have comprised an AGC portion and a fixed gain portion, because such a modification would have prevented overloading the speaker.

9.3 Regarding claim 13, Sacca discloses a gain module 128 in the transmit path according to claim 1. Sacca fails to teach that the gain module comprises an automatic gain control (AGC) portion and a fixed gain portion.

However, Li discloses a speakerphone with line echo canceller in figure 1. Li teaches that a gain module comprises an AGC portion 120 and a fixed gain portion 122 in a transmit path.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sacca reference with the teaching of Li so that the gain module would have comprised an AGC portion and a fixed gain portion, because such a modification would have provided a fixed level signal into a telephone line.

9.4 Regarding claim 14, Sacca discloses method of allowing a playback message signal to be combined with a receive signal in a receive path of a voice messaging system with speakerphone capability, comprising:

sidetone (hybrid echo) canceling a transmit signal from a received signal (column 1, lines 41-47; column 7, lines 42-45);

summing a playback message signal together with said sidetone cancelled signal at a point in said receive path (figure 1; column 8, lines 7-12); and

maintaining said speakerphone in a receive stat until transmit activity is detected (column 9, lines 7-32).

Sacca teaches that the sidetone canceller eliminates a transmit signal from the receive signal, but fails to specifically teach canceling the transmit signal from a receive signal at a summer in the receive path.

Howèver, Li discloses a speakerphone with line echo canceller in figure 1. Li teaches a transmit signal is cancelled from a receive signal at a summer in a receive path (column 2, lines 11-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sacca reference with the teaching of Li so that a transmit signal is cancelled from a receive signal at a summer in a receive path, because such a modification would have clarified the teaching of Sacca since it was well known in the art that a echo canceller summed a transmit signal in a receive path.

9.5 Regarding claim 15, Sacca discloses system of allowing a playback message signal to be combined with a receive signal in a receive path of a voice messaging system with speakerphone capability, comprising:

means (sidetone canceller) for canceling a transmit signal from a received signal (column 1, lines 41-47; column 7, lines 42-45);

means for summing a playback message signal together with said sidetone cancelled signal at a point in said receive path (figure 1; column 8, lines 7-12); and

means for maintaining said speakerphone in a receive stat until transmit activity is detected (column 9, lines 7-32).

Sacca teaches that the sidetone canceller eliminates a transmit signal from the receive signal, but fails to specifically teach canceling the transmit signal from a receive signal at a summer in the receive path.

However, Li discloses a speakerphone with line echo canceller in figure 1. Li teaches a transmit signal is cancelled from a receive signal at a summer in a receive path (column 2, lines 11-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sacca reference with the teaching of Li so that a transmit signal is cancelled from a receive signal at a summer in a receive path, because such a modification would have clarified the teaching of Sacca since it was well known in the art that a echo canceller summed a transmit signal in a receive path.

9.6 Regarding claims 17 and 20, the Sacca reference, modified by Li, Sacca further teaches that the voice messaging system is a telephone answering device (column 8, lines 7-9; column 13, lines 42-47).

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sacca US Patent N. 5,692,042 in view of Knuth et al. US Patent No. 5,768,349 and further in view of Li US Patent No. 5,646,990.

Sacca teaches using a switched loss module in the receive path, but fails to teach using a digital to analog converter (D/A converter) at a point after said switched loss module.

However, Knuth discloses digital telephone answering device with speakerphone capability (column 4, lines 35-38; column 8, lines 44-55), and Li discloses a digital speakerphone wherein a D/A converter 230 is at a point after a receive AGC module 246 (figure 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sacca reference, with the teaching of Knuth and Li so that the Sacca's system would have been a digital TAD and a D/A converter would be at a point after the switched loss module, because such a modification would have upgraded the Sacca reference from analog to digital.

11. Claims 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sacca US Patent N. 5,692,042 in view of Knuth US Patent No. 5,768,349.

Sacca teaches injecting an electrical signal into a receive path and a transmit path of an analog speakerphone, but fails to teach that the electrical signal is injected digitally.

However, Knuth discloses digital telephone answering device (DATD) with speakerphone capability (column 4, lines 35-38; column 8, lines 44-5), and Knuth teaches injecting recorded signal into the DTAD digitally (column 4, lines 56-58).


Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sacca reference with the teaching of Knuth so that the Sacca's system would have been a digital TAD and the electrical signal would have been injected digitally, because such a modification would have upgraded the Sacca reference from analog to digital.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Simon Sing whose telephone number is (703) 305-3221. The examiner can normally be reached on Monday - Friday from 8:30 AM to 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang, can be reached at (703) 305-4895. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.



S.S.

09/18/2002

FAN TSANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

